

### **ABSTRACT**

Methods and apparatus for vertical die chip-on-board sensor packages are provided. Such vertical die chip-on-board sensor packages can comprise a vertical sensor circuit component comprising a first face, a second face, a bottom edge, a top edge, two side edges, input/output (I/O) pads and at least one sensitive direction wherein the I/O pads are arranged near the bottom edge. Such vertical die chip-on-board sensor packages can also comprise one or more horizontal sensor circuit components comprising a top face, a printed circuit board (PCB) mounting face, a vertical sensor circuit component interface edge, two or more other edges, and one or more sensitive directions wherein the vertical sensor circuit component interface edge supports the vertical sensor circuit component along the Z axis and conductively or non-conductively connects to the vertical sensor circuit component. The methods and apparatus provided include a multi-axis magnetometer for measuring the magnetic field intensity along three orthogonal axes comprising one or more magnetic field sensing circuit components mounted by their PCB mounting face to a PCB and a vertical magnetic sensor circuit component mounted to the PCB such that the vertical magnetic sensor circuit component is attached to and supported by the magnetic field sensing circuit component.